

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Glycine max

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	(+)-CATECHIN	Leaf	--	--		
5	24-METHYLENE-CYCLOARTANOL	Seed	--	--		
2	3-OCTANOL	Leaf	--	--		
2	3-TETRADECENE	Leaf	--	--		
1	4-HYDROXYCINNAMIC-ACID	Leaf	--	--		
1	6'-O-ACETYL-DAIDZIN	Seed	--	145		
1	6'-O-ACETYL-DAIDZIN	Hypocotyl	--	--		
1	6'-O-ACETYL-GENISTIN	Seed	17	145		
1	6'-O-ACETYL-GENISTIN	Hypocotyl	--	--		
6	ACETALDEHYDE	Plant	--	--		
16	ACETIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ACETONE	Plant	--	--		
11	ADENINE	Seed	210	500		
11	ADENINE	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	ADENOSINE	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ALANINE	Seed	17190	18795	1.8364311043346604	USDA's Ag Handbook 8 and sequelae)
3	ALANINE	Shoot	--	--		
12	ALLANTOIN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	ALLANTOIN	Shoot	--	--		
12	ALLANTOIN	Leaf	--	--		
10	ALPHA-AMYRIN	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	ALPHA-AMYRIN	Seed	--	--		
15	ALPHA-LINOLENIC-ACID	Seed	13300	14540	-0.04414799549341594	USDA's Ag Handbook 8 and sequelae)
32	ALPHA-TOCOPHEROL	Leaf	29	280	-0.18096606944598598	Jim Duke's personal files.*
32	ALPHA-TOCOPHEROL	Oil	95	95	-0.5599812734644116	
32	ALPHA-TOCOPHEROL	Seed	8	19	-0.6706086853815132	
32	ALPHA-TOCOPHEROL	Cotyledon	--	--		
32	ALPHA-TOCOPHEROL	Seed Coat	--	--		
5	ALUMINUM	Seed	2	60	-0.26377621554746117	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	AMYLASE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	ANTHERAXANTHIN	Leaf	--	--		
3	ANTHOCYANIN	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	ARABINOGLACTAN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	ARACHIDONIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	ARGININE	Seed	28310	30950	0.2671719629841607	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Shoot	--	--		
112	ASCORBIC-ACID	Fruit	290	942	-0.22591827832262512	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Seed	--	849	0.17123949092904842	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
112	ASCORBIC-ACID	Sprout Seedling	100	949	-0.32572024497431507	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	ASPARTIC-ACID	Seed	45890	50175	2.4489637700126963	
3	ASPARTIC-ACID	Shoot	--	--		
7	ASTRAGALIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	ASTRAGALIN	Shoot	--	--		
9	BETA-AMYRIN	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
9	BETA-AMYRIN	Seed	--	--		
53	BETA-CAROTENE	Fruit	4.1	13.4	-0.12489867056145085	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Plant	0.3	0.3	-0.725554428919116	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Seed	--	11.3	0.2770460964172915	
53	BETA-CAROTENE	Sprout Seedling	0.2	3.5	1.8424562236243391	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Seed Oil	--	--		
47	BETA-SITOSTEROL	Seed	300	900	-0.28561627135403095	
14	BETAINE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
32	BIOCHANIN-A	Seed	--	--		
4	BIOTIN	Seed	--	750	2.8439342262895244	
4	BORON	Seed	4	18	-0.2898953572647384	
2	CADAVERINE	Seed	--	--		
102	CAFFEIC-ACID	Seed	1	4	-0.7670730483511597	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Fruit	670	2200	-0.382205269662298	
28	CALCIUM	Plant	9400	13000	-0.06304536035658775	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Seed	780	4440	0.05391855663256077	
28	CALCIUM	Sprout Seedling	480	3504	-0.25583940940557376	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Seed	90	270	-0.06442827441546968	
14	CANAVANINE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CARLINOSIDE	Root	--	--		
1	CATALASE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	CEPHALIN	Seed	4650	7750	-0.6767512238153537	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	CHLORINE	Seed	200	200	-0.3287156096747976	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Shoot	--	--		
21	CHLOROPHYLL	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
21	CHLOROPHYLL	Tissue Culture	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CHOLESTEROL	Seed	--	--		
20	CHOLINE	Seed	--	2.49	-1.5717062507078938	
1	CIS-ACONITIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
23	CITRIC-ACID	Seed	8000	13000	1.2210504417777566	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Seed	--	0.78	-0.17211427130152268	
12	COPPER	Seed	4.3	18	0.2889427800893567	
13	COUMESTROL	Seed	--	1.2	-0.4612589539370201	
13	COUMESTROL	Shoot	--	71.1	-1.0977191006402005	
13	COUMESTROL	Root	--	--		
13	COUMESTROL	Plant	--	--		
13	COUMESTROL	Leaf	--	--		
10	CROCETIN	Leaf	--	--		
7	CYCLOARTENOL	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	CYCLOARTENOL	Seed	--	--		
13	CYSTEINE	Seed	5880	6430	0.3533356432282208	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Shoot	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
32	DAIDZEIN	Cotyledon	14	28		
32	DAIDZEIN	Hypocotyl	140	190		
32	DAIDZEIN	Seed	8	328	1.4020723147461107	
32	DAIDZEIN	Testa	7	10		
32	DAIDZEIN	Plant	--	--		
32	DAIDZEIN	Shoot	--	--		
32	DAIDZEIN	Root	--	--		
32	DAIDZEIN	Seed Coat	--	--		
32	DAIDZEIN	Embryo	--	--		
32	DAIDZEIN	Leaf	--	--		
10	DAIDZIN	Cotyledon	375	1028		
10	DAIDZIN	Hypocotyl	7599	10315		
10	DAIDZIN	Seed	129	8100		
10	DAIDZIN	Testa	7	86		
10	DAIDZIN	Shoot	--	--		
10	DAIDZIN	Seed Coat	--	--		
10	DAIDZIN	Embryo	--	--		
3	DAMMARADIENOL	Seed	--	--		
4	DELTA-TOCOPHEROL	Seed	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	DELTA-TOCOPHEROL	Cotyledon	--	--		
4	DELTA-TOCOPHEROL	Seed Coat	--	--		
4	DELTA-TOCOPHEROL	Embryo	--	--		
3	DEMETHYLTEXASIN	Seed	--	--		
2	DIMETHYL-AMINE	Seed	--	8	1.3538544743337664	
5	ERGOSTEROL	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ERUCIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	ETHANOL	Plant	--	--		
1	ETHYLENE	Tissue Culture	--	--		
1	EUPHOL	Seed	--	--		
61	FERULIC-ACID	Plant	1	4	-1.3945742048468985	
61	FERULIC-ACID	Seed	1	4	-0.42737767861945536	
61	FERULIC-ACID	Shoot	--	--		
15	FIBER	Fruit	14000	45000	-0.9122848051944537	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Plant	281000	355000	0.9773555930215473	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	FIBER	Seed	19000	63000	-0.5667778432332443	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Sprout Seedling	7000	58000	-0.8026376571495062	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FISETIN	Leaf	--	--		
15	FOLACIN	Seed	0.3	4	0.5790996523157547	USDA's Ag Handbook 8 and sequelae)
13	FORMIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	FORMONONETIN	Shoot	--	--		
16	FORMONONETIN	Seed	--	--		
8	FRUCTOSE	Stem	--	--		
7	FUMARIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
62	GALLIC-ACID	Leaf	0.1	2.9	-0.8716905786787352	
14	GAMMA-TOCOPHEROL	Oil	699	699	1.21894780776725	
14	GAMMA-TOCOPHEROL	Seed	140	140	-0.6133327216885034	Abstract (See species file)
14	GAMMA-TOCOPHEROL	Cotyledon	--	--		
14	GAMMA-TOCOPHEROL	Seed Coat	--	--		
14	GAMMA-TOCOPHEROL	Embryo	--	--		
81	GENISTEIN	Cotyledon	28	59		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
81	GENISTEIN	Endosperm	--	267		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
81	GENISTEIN	Hypocotyl	242	247		
81	GENISTEIN	Seed	20	267000	3.3165729076211345	
81	GENISTEIN	Testa	5	15		
81	GENISTEIN	Root	--	--		
81	GENISTEIN	Plant	--	--		
81	GENISTEIN	Shoot	--	--		
81	GENISTEIN	Embryo	--	--		
3	GENISTIN	Cotyledon	1139	2058		
3	GENISTIN	Hypocotyl	53	91		
3	GENISTIN	Seed	522	13400		
3	GENISTIN	Testa	28	74		
3	GENISTIN	Shoot	--	--		
3	GENISTIN	Seed Coat	--	--		
8	GENTISIC-ACID	Seed	--	--		
1	GLUCOSAMINE	Seed	--	--		
7	GLUCOSE	Seed	300	570	-0.5708088947103821	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	GLUCOSE	Stem	--	--		
4	GLUCURONIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GLUTAMIC-ACID	Seed	70680	77280	1.500594213331154	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Shoot	--	--		
3	GLYCEOCARPIN	Seed	--	--		
3	GLYCEOFURAN	Seed	--	--		
7	GLYCEOLLIN-I	Sprout Seedling	--	--		
7	GLYCEOLLIN-I	Leaf	--	--		
7	GLYCEOLLIN-I	Seed	--	--		
6	GLYCEOLLIN-II	Sprout Seedling	--	--		
6	GLYCEOLLIN-II	Leaf	--	--		
6	GLYCEOLLIN-II	Seed	--	--		
3	GLYCEOLLIN-III	Sprout Seedling	--	--		
3	GLYCEOLLIN-IV	Cotyledon	--	--		
3	GLYCEOLLIN-IV	Leaf	--	--		
12	GLYCINE	Seed	16870	18445	1.0833300246898254	USDA's Ag Handbook 8 and sequelae)
3	GLYCINOL	Seed	--	--		
5	GLYCITEIN	Hypocotyl	93	118		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	GLYCITEIN	Seed	13	30		
5	GLYCITEIN	Testa	15	15		
4	GLYCOLIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	GLYCOLIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	GLYCOLIC-ACID	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
54	GOSSYPOL	Seed	--	60	-0.5471643718398854	
6	GUANIDINE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	HISTIDINE	Seed	9840	10770	1.2351066590650546	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Sprout Seedling	--	--		
7	HISTIDINE	Shoot	--	--		
2	HYDROXYPHASEOLIN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	INDOLE-3-ACETIC-ACID	Root	--	--		
7	INDOLE-3-ACETIC-ACID	Tissue Culture	--	--		
7	INDOLE-3-ACETIC-ACID	Nodule	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	INOSITOL	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	INOSITOL-HEXAPHOSPHATE	Seed	14000	14000		
12	IODINE	Seed	0.5	16	1.211694510586365	
6	IRON	Fruit	28	91	-0.1665157090724682	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Plant	210	210	-0.4909993584707343	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Seed	38	180	0.13570418938452208	
6	IRON	Sprout Seedling	10	73	-0.977832601159982	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	ISOFERULIC-ACID	Seed	--	--		
3	ISOLEUCINE	Seed	19353	19353	1.1307339242027867	
3	ISOLEUCINE	Shoot	--	--		
28	ISOLIQUIRITIGENIN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	ISOLIQUIRITIGENIN	Root	--	--		
22	ISOQUERCITRIN	Leaf	--	--		
22	ISOQUERCITRIN	Shoot	--	--		
75	KAEMPFEROL	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
75	KAEMPFEROL	Leaf	--	--		
75	KAEMPFEROL	Shoot	--	--		
75	KAEMPFEROL	Seed	--	--		
1	KAEMPFEROL-3-O-SOPHOROSIDE	Leaf	--	--		
1	LANOSTEROL	Seed	--	--		
20	LECITHIN	Seed	15000	25000	-0.05705402483930944	
2	LEUCINE	Seed	29720	32500	1.4758453638396294	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Shoot	--	--		
13	LIGNIN	Tissue Culture	--	--		
1	LIGNOCERIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
27	LINOLEIC-ACID	Seed	70335	126082	0.1624494775794359	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
27	LINOLEIC-ACID	Sprout Seedling	--	--		
27	LINOLEIC-ACID	Tissue Culture	--	--		
27	LINOLEIC-ACID	Plant	--	--		
21	LUPEOL	Seed	--	--		
15	LUTEIN	Leaf	--	--		
4	LYSINE	Seed	24290	26560	1.9588722403264331	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	LYSINE	Shoot	--	--		
65	MAGNESIUM	Seed	430	3160	0.0845089481963597	
15	MALIC-ACID	Seed	700	1000		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	MALONYLDAIDZIN	Plant	--	--		
1	MALONYLDAIDZIN	Seed	--	2190		
1	MALONYLGENISTIN	Plant	--	--		
1	MALONYLGENISTIN	Seed	--	390		
2	MALTOSE	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	MANGANESE	Seed	8	60	0.08070314044319968	USDA's Ag Handbook 8 and sequelae)
2	METHANOL	Plant	--	--		
15	METHIONINE	Seed	4920	5380	0.2750554211178711	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Shoot	--	--		
1	METHYL-AMINE	Seed	0.5	50	1.2292063770991455	
2	MOLYBDENUM	Seed	--	4	-0.03027816734100232	
13	MUFA	Seed	44040	48150	-0.4432772495696827	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Seed	550	600	-0.28814869869431103	USDA's Ag Handbook 8 and sequelae)
56	NARINGENIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	NEO-CHLOROGENIC-ACID	Plant	--	--		
2	NEO-CHLOROGENIC-ACID	Shoot	--	--		
2	NEOXANTHIN	Leaf	--	--		
39	NIACIN	Fruit	14	46	-0.19648826587936435	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
39	NIACIN	Seed	13	32	-0.3258642197601791	
39	NIACIN	Sprout Seedling	8	58	-0.5121152930992617	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Seed	1	30	4.829170415307817	
1	NICOTIANAMINE	Seed	--	--		
4	O-COUMARIC-ACID	Seed	--	--		Jim Duke's personal files.
18	OLEIC-ACID	Seed	40230	72116	-0.38626434873675436	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	OLEIC-ACID	Sprout Seedling	--	--		
18	OLEIC-ACID	Tissue Culture	--	--		
18	OLEIC-ACID	Plant	--	--		
2	ONONIN	Plant	--	--		
2	ONONIN	Shoot	--	--		
9	OXALIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	OXALIC-ACID	Seed	770	770	-0.5180477001291252	
25	P-COUMARIC-ACID	Seed	1	4	-0.5303185171481289	
25	P-COUMARIC-ACID	Shoot	--	--		
13	P-HYDROXY-BENZOIC-ACID	Seed	0.7	2.7	-1.3252624036858551	
13	PALMITIC-ACID	Seed	14895	26862	-0.1453508299023745	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Sprout Seedling	--	--		
2	PALMITOLEIC-ACID	Seed	550	600	-0.28406487011862774	USDA's Ag Handbook 8 and sequelae)
11	PANTOTHENIC-ACID	Seed	6	12	-0.4968077273222071	
2	PHASEOL	Leaf	--	--		
5	PHASEOLIN	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	PHENYLALANINE	Seed	19050	20830	1.1093395840274298	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Shoot	--	--		
2	PHOSPHATIDYL-CHOLINE	Seed	--	--		
4	PHOSPHORUS	Fruit	2250	7305	1.2419936190136918	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Plant	2400	5410	0.8752229948914451	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Seed	1580	8040	0.7099705776838129	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Sprout Seedling	580	4891	-0.6799841296068554	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	PHYLLOQUINONE	Seed Oil	--	1.73	1.3413568047886393	
5	PHYLLOQUINONE	Oil	--	1.9	1.491622412914742	Booth, S. L., Suttie, J. W. 1998. Dietary intake and adequacy of vitamin K. <i>J. Nutrition</i> , 128(5): 785-788.
9	PHYTIC-ACID	Seed	16400	27400	0.7420410284820737	
2	PHYTOSTEROLS	Seed	500	1760	-0.16725551937900018	
5	PINITOL	Leaf	10000	10000	-1	
5	PINITOL	Root	--	550		
5	PINITOL	Seed	2000	2980	1	
5	PINITOL	Nodule	--	0.55		
10	PIPERIDINE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	POTASSIUM	Plant	10600	10600	-0.7808849981360013	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	POTASSIUM	Seed	4100	27600	1.3217860032941293	
14	POTASSIUM	Sprout Seedling	2790	15081	0.18121954225336925	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	PROPIONIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
43	PROTOCATECHUIC-ACID	Plant	0.2	0.5	-1.3990945866465552	
43	PROTOCATECHUIC-ACID	Seed	--	--		
4	PUFA	Seed	112550	123060	0.13139075144237272	
43	PYRIDOXINE	Seed	6.4	6.4	0.11772040233700277	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	PYROGLUTAMIC-ACID	Seed	1000	3000		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
176	QUERCETIN	Plant	--	--		
176	QUERCETIN	Shoot	--	--		
44	QUERCITRIN	Leaf	--	--		
1	RAFFINOSE	Seed	5000	15000	1.999216011437881	
15	RIBOFLAVIN	Fruit	1.6	5	-0.0019916133753625524	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Seed	1.7	13	3.631633595689942	
15	RIBOFLAVIN	Sprout Seedling	1.5	15	0.21733051397161018	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
87	RUTIN	Shoot	--	--		
7	SALICYLATES	Seed	--	--		
34	SALICYLIC-ACID	Seed	--	--		
5	SAPONINS	Seed	5600	56000	0.2920245826731543	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	SELENIUM	Seed	0.04	1.25	-0.23802535171933914	
1	SERINE	Plant	--	--		
1	SERINE	Seed	21150	23125	2.405346608784236	USDA's Ag Handbook 8 and sequelae)
1	SERINE	Shoot	--	--		
4	SILICON	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	SINAPIC-ACID	Leaf	--	--		
9	SINAPIC-ACID	Seed	--	--		
1	SODIUM	Seed	9	3800	5.316472466145284	
1	SODIUM	Sprout Seedling	300	1622	1.611978737919607	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	SOYASAPONIN-A-1	Seed	239.9	600		
1	SOYASAPONIN-A-1	Sprout Seedling	--	--		
1	SOYASAPONIN-A-1	Embryo	--	--		
1	SOYASAPONIN-A-1	Seed Coat	--	--		
1	SOYASAPONIN-A-1	Cotyledon	--	--		
1	SOYASAPONIN-A-2	Embryo	--	--		
1	SOYASAPONIN-A-2	Seed	50	350		
1	SOYASAPONIN-A-2	Seed Coat	--	--		
1	SOYASAPONIN-A-2	Cotyledon	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SPERMIDINE	Seed	--	--		
1	SPERMIDINE	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	SPERMINE	Seed	--	--		
10	SQUALENE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	SQUALENE	Seed Oil	--	--		
1	STACHYOSE	Seed	22300	51050	2.0447562050297727	
5	STARCH	Seed	10000	10000	-1.2154768155071387	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	STARCH	Tissue Culture	--	--		
8	STEARIC-ACID	Seed	4320	7785	-0.3964819758042908	
1	STIGMAST-4-EN-3-ONE	Tissue Culture	--	--		
12	STIGMASTEROL	Seed	110	400	-0.02198755345558896	
12	STIGMASTEROL	Seed Oil	--	--		
7	SUCCINIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	SUCCINIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	SUCCINIC-ACID	Sprout Seedling	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SUCROSE	Seed	27950	71700	0.3221064961771977	
14	SUCROSE	Stem	--	--		
14	SULFUR	Seed	4066	4066	0.8660734417577307	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	SYRINGIC-ACID	Root	4.1	4.7		
6	SYRINGIC-ACID	Seed	--	--		
41	TANNIC-ACID	Seed	--	--		
2	TARAXASTEROL	Seed	--	--		
2	TARAXEROL	Seed	--	--		
22	TETRAMETHYL-PYRAZINE	Seed	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
31	THIAMIN	Fruit	4.4	14	1.1094590253319676	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Seed	4	10	0.8149652509512033	
31	THIAMIN	Sprout Seedling	1.9	17	0.07899870143001875	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	THREONINE	Seed	15850	17330	2.0563226508170747	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Shoot	--	--		
2	TRANS-ACONITIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	TRIGONELLINE	Fruit	3.7	16.2	-1.0000000000000002	
15	TRIGONELLINE	Leaf	10.5	63.2	-0.9999999999999991	
15	TRIGONELLINE	Root	--	1.1	-0.8977304819051846	
15	TRIGONELLINE	Seed	19.7	71.8	-0.45158919680050263	
15	TRIGONELLINE	Stem	1.5	7.6	-0.9999999999999998	
15	TRIGONELLINE	Tissue Culture	--	--		
15	TRIGONELLINE	Plant	--	--		
29	TRYPTOPHAN	Seed	5300	5795	0.8423217381672816	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Seed	13800	15090	1.7023692344015355	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Shoot	--	--		
3	VALINE	Seed	18210	19910	0.972773474998519	USDA's Ag Handbook 8 and sequelae)
24	VANILLIC-ACID	Root	1	4	-1.3897978667604325	
24	VANILLIC-ACID	Seed	--	--		
1	VERBASCOSCE	Seed	3000	3000	-2.166130806270416	
2	VIOLAXANTHIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
75	VITAMIN-E	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
75	VITAMIN-E	Seed Oil	--	--		
1	VITAMIN-K	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	VITEXIN	Root	--	--		
1	VITEXIN-2'-O-RHAMNOSIDE	Root	--	--		
1	XANTHINE	Sprout Seedling	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
3	XYLOSE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Seed	22	90	1.273809963462215	